Mojave Bioregion

The Mojave Bioregion is one of California's largest bioregions and a desert showcase. The eastern boundary is contiguous with the borders of Nevada and Arizona. To the north and west, the Mojave borders the Sierra Bioregion, and to the south, it is bounded by the South Coast and Colorado Desert bioregions.

Location, Cities, People

Seven counties make up the Mojave Bioregion: nearly all of San Bernardino, most of Inyo, the southeastern tips of Mono and Tulare, the eastern end of Kern, northeastern desert area of Los Angeles, and a piece of northern-central Riverside County. The largest cities are Palmdale and Lancaster, two of California's fastest-growing communities, and Victorville, Hesperia, Ridgecrest, and Barstow. The Mojave Bioregion, historically a sparsely populated expanse of desert, had over 2.6 million people as of the 1990 census, but is growing rapidly, as urban congestion and housing costs push people farther into the open areas.

Native Americans lands in the Mojave bioregion include the Chemehuevi Indian Reservation on the Colorado River, Twentynine Palms Indian Reservation, Fort Mojave Indian Reservation, and Fort Mojave Trust Lands, which both straddle the California-Nevada border.

Tourist Attractions, Industries

The desert has its own kind of beauty, captured in sweeping landscapes of pastel earth tones. The Mojave bioregion features some of the nation's most dramatic desert scenery, and is the home of three national parks — Death Valley, East Mojave, and Joshua Tree — under the National Park Service. The California Department of Parks and Recreation manages the Providence Mountains State Recreational Area near Goffs in eastern San Bernardino County, and the U.S. Fish and Wildlife Service operates Havasu National Wildlife Refuge on the Colorado River near Lake Havasu.

Military installations include Edwards Air Force Base in Kern, Los Angeles, and San Bernardino counties; Twentynine Palms Marine Corps Air Ground Combat Center, Fort Irwin Military Reservation, Inyokern Naval Ordnance Test Station, and China Lake U.S. Naval Ordnance Test Station in San Bernardino, Inyo, and the eastern end of Kern counties. Much of the desert is under the U.S. Bureau of Land Management, which manages the Desert Tortoise Natural Area northeast of Palmdale, and Harper Lake near Barstow. BLM has created a multi-agency, multi-species plan for the desert that designates certain areas for habitat, multiple uses, and development. It is designed to conserve habitat, foster economic development, and streamline the permitting process for development.

Mining — including lucrative gold mining — is a major industry in the Mojave bioregion. Off-road vehicle riding is a popular sport in the desert, which offers many trails across the plains and through the scrub. Ranching and livestock grazing are significant economic interests in this bioregion.

Climate, Geography

The Mojave bioregion is the western extension of a vast desert that covers Southern Nevada, the southwestern tip of Utah, and 25 million acres of Southern California — one quarter of the state. The climate is hot and dry in summer. Winters are cool to cold, depending on the elevation, with occasional rainstorms that can quickly turn a gulch or dry lake into a flash flood zone.

The landscape is mostly moderately high plateau with elevations averaging 2,000 to 3,000 feet and isolated peaks that exceed 6,000 and 7,000 feet. Though appearing barren and remote, the desert teems with biodiversity. More than 90 percent of the desert is within three miles of a paved road or off-road vehicle track.

Palm oases provide water for wildlife, as do many streams and springs. In prehistoric times, the bioregion contained great desert lakes, which have long since evaporated and seeped underground. This bioregion has the lowest

elevation in North America, 282 feet below sea level in Death Valley National Park. The Mojave, Amargosa, and Colorado Rivers are the largest rivers in this mostly arid bioregion.

Plants, Wildlife

Common habitats of the Mojave bioregion are: desert wash, Mojave creosote bush, scattered desert saltbush, Joshua tree scrub, alkali scrub, palm oasis, juniper-pinyon woodland, and some hardwood and conifer forests at higher elevations. Cottonwood willow riparian forest is rare habitat in this bioregion, as is alkali marsh and open sandy dunes.

Rare animals include the Mohave ground squirrel, prairie falcon, Le Conte's thrasher, Nelson's bighorn sheep, gray vireo, desert tortoise, pale big-eared bat, Amargosa vole, and Mohave tui chub, an olive-brown and silver fish, and the cottontail marsh pupfish, found only in Death Valley National Park. Parks and recreation areas that provide water are the home of snowy plovers, least sandpipers, killdeer, white pelicans, teal, and thousands of migratory wading shore birds, as well as eagles, harriers, falcons, owls, coyotes, badgers, great blue herons, least Bell's vireos, red-tailed hawks, and Canada geese.

Rare plants include white bear poppy, Barstow woolly sunflower, alkali mariposa lily, Red Rock poppy, Mojave monkeyflower, and Stephen's beardtongue. For a complete list of the Mojave Bioregion's federal and state endangered, threatened and rare species, please refer to the chart at the end of this bioregional section.

CURRENT CONSERVATION INITIATIVES

Early this century, water became one of the Owens Valley's most sought-after resources. In the 1920's and 30's, the City of Los Angeles acquired riparian lands and water rights in the Owens Valley, including ***Fish Slough****, to provide water to the city. Throughout the Owens Valley much aquatic habitat had already been lost to diversions for agriculture; now more was lost to the city, but Fish Slough was incidentally set aside from intensive agricultural or residential development.*

In 1982, the U.S Bureau of Land Management's Bishop Resource Area identified Fish Slough and its watershed as an Area of Critical Environmental Concern. The designation recognized Fish Slough's importance as the last Owens Valley wetland to ration most of its natural integrity as an ecosystem, including critical habitat for endemic fish and plants. It also acknowledged its significant scenic values and potential for non-intensive recreation, and the vulnerability of all these resources to adverse change.

Five agencies cooperated in developing a 1985 Management Plan for Fish Slough including the U.S. Bureau of Land Management, California Department of Fish and Game, Los Angeles Department of Water and Power, U.S. Fish and Wildlife Service, and University of California Natural Reserve System.

These five agencies continue to share responsibility for Fish Slough today. The Joint Management Committee meets to report on completed projects and monitoring results and to identify new actions. Other interested parties, such as the Audubon Society and Desert Fishes Council, often provide input. The committee, charged with both day-to-day and long-term management of Fish Slough, attempts to reach consensus within the context of the different agencies' requirements and regulations.

The Management Plan directs preservation and enhancement of wetland integrity to ensure stable, healthy populations of native plants and animals. Ongoing projects include monitoring flora and fauna, removing non-natives that compete with native species, managing wildfire management to recognize the natural role of fire, limiting livestock grazing, and monitoring groundwater levels. The management plan also calls for maintaining public access and recreational use is harmony with the natural system.

Fish Slough exemplifies concepts of community stewardship that will drive land management in the future. The priority is ecosystem health on a watershed scale. The basis is sound science, supported by ongoing monitoring and research. The process is interagency collaboration, together with public organizations and interested individuals. Volunteers add energy, efficiency, and diversity to the workforce, and help carry concepts and concerns between agencies and public.

For more information contact: Joy Footah or Joe Pollini, U.S. Bureau of Land Management, Bishop Resource Area at (619) 872-4881.

*The **West Mojave Coordinated Management Plan** is a multi-agency, multi-species plan for the desert that designates certain areas for habitat, multiple uses, and development. It is designed to conserve habitat, foster economic development, and streamline the permitting process for development.*

In 1989, the state of California listed the desert tortoise as threatened, and a federal listing followed the next year. Difficulties created by the listing prompted the U.S. Bureau of Land Management (BLM) to contact the U.S. Fish and Wildlife Service and California Department of Fish and Game to discuss developing a management plan based on ecosystem considerations, regardless of land ownership. The agencies began to work with local and state government, the military, and other federal agencies to prepare the West Mojave Coordinated Management Plan.

The plan provides for the Mojave desert in a way that will save the threatened desert tortoise, protect native biodiversity, and at the same time allow economic and recreational use of the resources. Covering almost the entire western half of the Mojave bioregion, the plan is considered a blueprint for large-area multi-species habitat conservation planning, particularly where public lands dominate the landscape.

The plan envisions three types of "management zones" that provide varying degrees of protection for the desert habitat. The "preserve zones" offer the maximum protection for plants and animals. "Managed-use zones" provide habitat protection in a manner that allows for other resource uses. And "development zones" are those areas deemed unsuitable for species protection because of existing or potential development, or other existing land-use commitments, such as military maneuvers, industrial use, and recreational activity. No protection would be given to plants and animals in "development zones," except for in a few small "specialty preserves."

Once adopted, the West Mojave Management Plan will be subject to periodic review and amendment so that it can remain pertinent to the needs of the participating agencies. Implementation of the plan will be funded through a combination of mitigation fees paid as a compensation for habitat loss, state and federal appropriations, and other sources.

The West Mojave Management Plan represents one of the most comprehensive planning processes ever in the desert region and will provide a means to ensure both the animal and human uses can thrive in this popular and growing region.

For additional information contact: Bill Haigh, U.S. Bureau of Land Management, Barstow Field Office at (760) 252-6080.

*The **Deep Springs Resource Management Team** is working to maintain and improve an economically viable livestock operation while preserving and enhancing wildlife habitat, biological diversity and integrity, and cultural resources. Together, the team members have worked to develop and implement a method of handling cattle to minimize riparian impacts without the need for fencing or other costly developments.*

In 1992, the Deep Springs Resource Management Team (DSRMT) was formed to manage the resources of the Deep Springs Ranch, which is made up of combination of private landowners, the U.S. Forest Service, and the U.S. Bureau of Land Management. The team's goal is to maintain and/or improve an economically viable livestock operation while preserving and enhancing wildlife habitat, biological diversity and integrity, and cultural resources.

The team includes representatives from Deep Springs College, U.S. Forest Service, U.S. Bureau of Land Management, Natural Resource Conservation Service, California Department of Fish and Game, University of California Agricultural Extension and the California Native Plant Society. The team meets 3 to 4 times per year to plan grazing and other projects and to evaluate the progress that is being made.

A few of the key issues that are regularly discussed include management and preservation of habitat for the Black Toad (Bufo Exsul), a unique toad found only in Deep

Springs Valley, riparian vegetation and stream channel health in the Ancient Bristlecone Pine Forest of the White Mountains, improved propagation of native grasses in Deep Springs Valley, identification and protection of several endangered plants, and protection and preservation of the White Mountain City cultural site.

Restoration and mitigation projects have included building exclosures to protect sensitive spring and stream areas, planting willows for stream bank stabilization, and recontouring and repairing erosion headcuts. The team has future projects planned to develop more water and more pastures with fencing. The grazing area of the ranch is also being expanded through the acquisition of new U.S. Forest Service grazing permits. The Inyo National Forest has written into their forest plan a statement that when a functioning team exists, such as the DSRMT, the team need not be bound by the standards and guidelines in the forest plan when managing the resource. This allows the team to respond to changing environmental and forage conditions rapidly and effectively. The team has also worked to develop and implement a method of handling cattle to minimize riparian impacts without the need for fencing or other costly developments.

For more information contact: Geoff Pope at Deep Springs College, HC 72, Box 45001, Dyer, NV 89010; (760) 872-2000; e-mail is gpope@deepsprings.edu.